



Shou'alah: O&M excellence fuels Dubai's Waste-to-Energy plant

In the heart of Dubai, a remarkable transformation is taking place at one of the largest 'Energy from Waste' plants in the world. This transformation is powered by Shou'alah, a joint venture between BESIX-Six Construct and Hitachi Zosen Inova. Shou'alah plays a pivotal role in the operation and maintenance (O&M) of the Dubai Waste-to-Energy facility, revolutionising waste management while contributing significantly to Dubai's sustainability goals, and the broader UAE vision for a greener future.



A triad of engagement

BESIX is actively engaged in the Dubai Waste-to-Energy project across three key domains: investment, construction, and operations. As the lead investor and Engineering, Procurement, and Construction (EPC) contractor for the Dubai Waste-to-Energy project, BESIX played a crucial role in the project's initiation and construction phase, ensuring the successful development and commissioning of this world-leading facility. Once completed, Shou'alah, the O&M provider (partly owned by BESIX), will provide operation and maintenance services for an impressive 35 years.

Shou'alah: enabling sustainability

Shou'alah represents a dynamic partnership with a clear mission: to ensure the safe, efficient, and reliable operation of the Dubai Waste-to-Energy facility. With an impressive capability to handle 1.9 million tonnes of waste annually, this facility will produce 220 MW of electricity, thereby providing power to approximately 135,000 households in the region.

At the heart of this sustainable marvel is a complex process that commences with the delivery of municipal solid waste stored in a bunker. A highly skilled crane team meticulously feeds the waste onto the reciprocating grate, and the plant's fully integrated control system ensures stable and efficient operation.

As the waste is incinerated, it generates flue gas which undergoes treatment with state-of-the-art technology to optimise combustion with minimal emissions of pollutants such as CO, NOx, and VOC. This aligns directly with the sustainability objectives of Dubai and the UAE. Simultaneously, the steam produced powers a turbine, efficiently generating energy that can be fed back into the grid.

Sustainable operations for a greener future

While the Dubai Waste-to-Energy facility itself stands as an architectural marvel, Shou'alah serves as its operational backbone. Equipped with industry-leading experience, expertise, and know-how, Shou'alah's specialised team is pivotal in guaranteeing the facility's seamless performance. This team undergoes rigorous training and development by both joint venture partners, emphasising the highest standards of operational excellence, aimed at ensuring the plant's availability and service while adhering to stringent environmental standards and safety protocols.

Transitioning for long-term success

BESIX, as the EPC contractor, plays a crucial role in ensuring Shou'alah's ongoing success. They will actively participate for one year following the Commercial Operation Date (COD) to facilitate Shou'alah's transition into full O&M management. During this Defects Liability Period, they will establish KPIs and address any remaining issues.

Subsequently, Shou'alah will assume a range of responsibilities critical to the operation of the Dubai Waste-to-Energy facility. These encompass daily operational oversight, equipment maintenance, strict adherence to safety and environmental regulations, continuous monitoring of key performance indicators, energy optimisation, and waste stream quality management. Their commitment to minimising emissions, efficient supply chain management, staff training, quality control, data analysis, and environmental impact tracking is complemented by community engagement, research and development, and emergency response preparedness.

Shou'alah truly represents a partnership shaping the future of waste management in the region, helping Dubai and the UAE realise their vision of a greener and more sustainable tomorrow.



Shou'alah's exceptional team, combined with BESIX's proven O&M success in various projects, creates an ideal foundation for success in managing the Dubai Waste-to-Energy facility. Their collective expertise and experience ensure the facility's operational excellence, environmental compliance, and long-term effectiveness in supporting Dubai's sustainability goals.

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